LARSON

CLASSIFICATION AND CORRELATION

OF

THE SOILS OF

WHITLEY COUNTY INDIANA APRIL 1985



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MIDWEST NATIONAL TECHNICAL CENTER
LINCOLN, NEBRASKA

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Midwest National Technical Center
Lincoln, Nebraska 68508-3866

Classification and Correlation of the Soils of Whitley County, Indiana

The field correlation and final field review for the soil survey of Whitley County, Indiana, was held at Huntington, Indiana, October 29, 1984, through November 2, 1984. Participating in the final field review were Donald R. Ruesch, soil survey leader; Roger L. Haberman, soil correlator; and Jerry D. Larson, Indianapolis State Office. The data reviewed consisted of the first draft of the soil survey manuscript, correlation samples, field sheets, field notes, laboratory data, and SCS-SOILS-5 forms. The final correlation was held during the week of December 10, 1984. Participants included Jerry D. Larson, Donald R. Ruesch, and Roger L. Haberman. The final correlation decisions were based on the draft manuscript, field notes, field sheets, laboratory data, SCS-SOILS-6, correlation samples, and the field correlation.

Headnote for Detailed Soil Survey Legend:

Map symbols consist of a combination of letters or of letters and numbers. The first capital letter is the initial one of the map unit name. The lowercase letter that follows separate map units having names that begin with the same letter, except that it does not separate sloping or eroded phases. The second capital letter indicates the class of slope. Symbols without a slope letter are for nearly level soils or miscellaneous areas. A final number of 2 indicates that the soil is moderately eroded and a number 3 indicates that the soil is severely eroded.

SOIL CORRELATION OF WHITLEY COUNTY; INDIANA

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Field symbols	unit name		Approved map unit name
Ae • Ad	Adrian muck, drained	Ае	Adrian muck, drained
	Blount silt loam, 0 to 2 percent slopes		Blount silt loam, 0 to 2 percent slopes
	Blount silt loam, 1 to 4 percent slopes, eroded		
Bt. <u>Hs</u>	Boots muck, undrained	Вt	Boots muck, undrained
	Boyer sandy loam, 2 to 6 percent slopes		Boyer loamy sand, 2 to 6 percent slopes
	Boyer sandy loam, 6 to 12 percent slopes		Boyer loamy sand, 6 to 12 percent slopes
	Boyer sandy loam, 12 to 20 percent slopes		-
KsA	Kosciusko sandy loam, O to 2 percent slopes		Boyer sandy loam, 0 to 2 percent slopes
KsB	Kosciusko sandy loam, 2 to 6 percent slopes		Boyer sandy loam, 2 to 5 percent slopes
FsC2, KsC	Kosciusko sandy loam, 6 to 12 percent slopes		Boyer sandy loam, 6 to 12 percent slopes
KtD3, KtC3	Kosciusko sandy clay Loam. 6 to 12 percent slopes slopes, severely eroded	•	
Bz, Br, Bx	Brookston Loam	B z	Frookston Leam
Why Co	Washtenaw Variant silt loam 	Co	Coesse silty clay

Field symbols			unit name
	Crosier loam, 0 to 3 percent slopes		Crosier sandy loam, 0 to 3 percent slopes
	Del Rey silt loam• 0 to 3 percent slopes		Fulton silty clay loam
	Glynwood silt loam, 3 to 8 percent slopes. eroded		Glynwood Loam, 3 to 6 percent slopes, eroded
	Glynwood clay loam, 3 to 8 percent slopes, severely eroded		Glynwood clay loam, 3 to 8 percent slopes, severely eroded
Gw + Gm + Gr	Granby Loamy sand	Gw	Granby Loamy sand
	Haskins loam, 0 to 3		Haskins loam, 0 to 3 percent slopes
	Hennepin Loam, 25 to 50 percent slopes		Hennepin Loam, 25 to 50 percent slopes
HOA, Sm, Ho	Homer loam, 0 to 2 percent slopes	Но	Homer Loam
	Houghton muck, undrained		Houghton muck, undrained
	Houghton muck, drained		Houghton muck, drained
	Kalamazoo sandy loam. O to 2 percent slopes	1	Kalamazoo sandy loam, 0 to 2 percent slopes
	Kalamazoo sandy loam, 2 to 6 percent slopes	f t	Kalamazoo sandy loam• 2 to 6 percent slopes
	Martinsville loam, 2 to 6 percent slopes		Martinsville loam, 1 to 5 percent slopes
	Martinsville loam. 6 to 15 percent slopes		

Field symbols	unit name	Pub li- cation symbol	unit name
	Martisco muck, drained		Martisco muck, drained
Mg, Ha, Lk	Mermill Loam	Mg	Mermitt loam
	Miami Loam, 2 to 6 percent slopes, eroded		Miami sandy loam, 2 to 6 percent slopes, eroded
	Miami Loam, 6 to 12 percent slopes, eroded		Miami sandy loam, 6 to 12 percent slopes, eroded
	Miami Loam, 12 to 18 percent slopes, eroded		Miami sandy loam, 12 to 18 percent slopes, eroded
	Miami loam, 18 to 25 percent slopes, eroded	•	Parties of the Control of the Contro
	Miami clay loam, 6 to 12 percent slopes, severely eroded	•	12 percent slopes.
		•	Miami clay loam, 12 to 20 percent slopes, severely eroded
	Milford silty clay loam		Milford silty clay
SbB2	Morley silt loam, 3 to 7 percent slopes, eroded	•	
SbC2	Morley silt loam, 7 to 12 percent slopes. eroded	:	
	Morley silt loam, 12 to 20 percent slopes, eroded	•	Morley loam, 12 to 20 percent slopes, eroded

Field symbols	: unit name	Publi- cation symbol	unit name
MvE2	<pre>i Morley silt loam. 20 i to 30 percent i slopes. eroded</pre>	:	Morley loam, 20 to 30 percent slopes, eroded
MxC3	Morley clay loam, 5 to 12 percent slopes, severely eroded	:	Morley clay loam, 5 to 12 percent slopes, severely eroded
MxD3	Morley clay loam, 12 to 20 percent slopes, severely eroded	:	Morley clay Loam, 12 to 20 percent slopes, severely eroded
MxE3	Morley clay loam, 20 to 30 percent slopes, severely eroded	:	Morley clay loam, 20 to 30 percent slopes, severely eroded
Mz	Muskego muck, drained		Muskego muck. clay Loam substratum. drained
Om8, OmA	Ormas Loamy fine sand, 2 to 6 percent slopes	:	Ormas Loamy fine sand, O to 4 percent slopes
OsA, BoA	Oshtemo sandy Loam, 0 to 2 percent slopes		Oshtemo sandy Loam, C to 2 percent slopes
Рa	Palms muck, sandy substratum, undrained	;	Palms muck, sandy substratum, undrained
Pb	Palms muck. sandy substratum, drained	Pb	Palms muck, samdy swpstratum, drained
PW	Pewamo silty clay	Pw	Pewamo silty clay Loam
Pχ	Pits, gravel	Px	: !Pits: gravel
RCA	Rawson sandy loam, 0 to 2 percent slopes		Pawson sandy Loam, 1 to 2 percent slopes

	Field map unit name		unit name
RcB	Rawson sandy loam, 2 to 6 percent slopes		10 to
RcC	Rawson sandy loam, 6 to 12 percent slopes		Rawson sandy loam, 6 to 12 percent slopes
Re	Rensselaer Loam	Re	Rensselaer loam
RhB, RhA	Riddles sandy loam, 2 to 6 percent slopes		Riddles sandy loam, 1 to 5 percent slopes
RhC	Riddles sandy loam, 6 to 12 percent slopes		Riddles sandy loam, 6 to 12 percent slopes
Sa	Saranac silty clay Loam, sandy substratum, frequently flooded		Saranac silty clay loam, sandy substratum, frequently flooded
Se, Ws	Sebewa Loam	Se	Sebewa Loam
SfB	Seward loamy fine sand, 2 to 6 percent slopes	•	Seward loamy fine sand, 2 to 6 percent slopes
SfC	Seward loamy fine sand, 6 to 15 percent slopes	;	Seward Loamy fine sand, 6 to 15 percent slopes
Sh	: sandy substratum,	i	Shoals silt loam, sandy substratum, frequently flooded
So	: substratum,	:	Sloan loam, sandy substratum, frequently flooded
SoB, SpA	Spinks Loamy sand, 2 to 6 percent slopes	S	Spinks sand, 2 to 5 percent slopes
SpC, OmC, SpD	Spinks loamy sand, 6 to 15 percent slopes		Spinks sand, 6 to 15 percent slopes
St, Ge	<pre>!Stonelick sandy loam; ! occasionally flooded</pre>		Stonelick Variant sandy loam, occasionally flooded

Field symbols	unit name		Approved map unit name
Ud, or	Udorthents, loamy	Ud	Udorthents, loamy
Wa	Wallkill silty clay		Wallkill silty clay loam
Wc. Wa	Wallkill Variant silty clay loam	:	Wallkill silty clay loam• coprogenous earth substratum
	Wawasee sandy loam, 2 to 5 percent slopes		Wawasee sandy loam, 2 to 5 percent slopes
Wmc, Wpc3, Mkc	Wawasee sandy loam. 6 to 15 percent slopes		Wawasee sandy loam. 6 to 15 percent slopes
WtA • Wt	Whitaker Loam, 0 to 3 percent slopes	W t	Whitaker loam

Series Established by This Correlation:

Coesse (type location in Whitley County)

Series Dropped or Made Inactive:

None

Certification Statement:

The state soil scientist certifies that:

- 1. Mapping was completed on December 15, 1983.
- 2. The general soil map for general planning has been joined to the map for the completed Allen, Noble, Kosciusko, Wabash, and Huntington Counties. All lines join across county boundaries, except in a few places where the units from adjacent counties are too narrow or they do not extend into Whitley County. The names of some map units have some differences because of changes in concept, design of map units, newly established series, and proportion of soils within the map units. In most cases, the associations have similar soils. A detailed account of the joins is attached to the report of field correlation and final field review.

The detailed maps have been joined and color checked to prove that each unit is a closed delineation. All lines join. In some cases, map units were not on the soil identification legend of Whitley County. In Allen County a few units seemed to be in error, but most are similar soils. A few map units have outwash soils in Whitley County joining till soils in Allen County. The other surrounding counties join much better and have similar soils joining where a discrepency does exist. A detailed account of the joins is attached to the report of field correlation and final field review.

- 3. Interpretations have been checked and the interpretations that will be used are those that are on the Soil Interpretation Records.
- 4. The location of pedon descriptions are in soil areas using those reference names and legal descriptions. The locations have been checked by the party leader.

Verification of Exact Cooperator Names:

The following will be on the front of the publication:

United States Department of Agriculture
Soil Conservation Service
in cooperation with
Purdue University
Agricultural Experiment Station
and
Indiana Department of Natural Resources
Soil and Water Conservation Committee

The citation in the box on the inside of the front cover will read:

CONVENTIONAL AND SPECIAL

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

Whitley County Soil Survey Area: _

SYMBOLS LEGEND Indiana Date: 11/84__ State: -DESCRIPTION SYMBOL DESCRIPTION SYMBOL DESCRIPTION SYMBOL SPECIAL SYMBOLS FOR CULTURAL FEATURES (cont.) **CULTURAL FEATURES** SOIL SURVEY BOUNDARIES MISCELLANEOUS CULTURAL FEATURES SOIL DELINEATIONS AND SOIL SYMBOLS FoB2 Farmstead, house (omit in urban areas) County or parish Minor civil division School SHORT STEEP SLOPE Field sheet matchline & neatline MISCELLANEOUS AD HOC BOUNDARY (label) Small airport, airfield, park, oilfield, cemetery, or flood pool WATER FEATURES STATE COORDINATE TICK DRAINAGE Gravelly spot 1 890 000 FEET LANO DIVISION CORNERS (sections and land grants) Perennial, double line ROADS Perennial, single line Divided (median shown if scale permits) Intermittent County, farm or ranch Drainage end Canais or ditches ROAD EMBLEMS & DESIGNATIONS Sandy spot Severely eroded spot Drafnage and/or irrigation _ Federal State LAKES, PONDS AND RESERVOIRS RECOMMENDED AD HOC SOIL SYMBOLS RAILROAD Perennial Intermittent intermittent, (int MISCELLANEOUS WATER FEATURES Muck spot less than 1/2 ♥ Marsh or swamp acre in size Undrained mineral soil # Wet spot less than 1 acre in DAMS size in a very poorly drained area Medium or small PITS X Gravel pit

"This survey was made cooperatively by the Soil Conservation Service, Purdue University Agricultural Experiment Station, and the Indiana Department of Natural Resources, Soil and Water Conservation Committee. It is part of the technical assistance furnished to the Whitley County Soil and Water Conservation District. Financial assistance was made available by the Whitley County Board of County Commissioners.

Disposition of Original Atlas Field Sheets:

The original atlas field sheets for Whitley County will be retained by the Indiana state office, and will be used in the map compilation and finishing procedures. Copies have been made for fire protection purposes. The state office at Indianapolis will prepare the atlas sheets for publication by January 1986.

Prior Soil Survey Publications:

There is no previous soil survey for Whitley County, Indiana.

Instructions for Map Finishing:

The conventional and special symbols used in this survey are listed on the attached SCS-SOILS-37A. These are the only symbols that will be shown on the published maps. The maps will be finished using the "Guide for Soil Map Finishing," July 1976.

Symbols Hs, Ht, and Wa appear on the field sheets underlined and not underlined. This may give a different publication symbol. The publication symbol for Hs is Hs and for Hs is Bt; for Wa it is Wa and for Wa is Wc; while that for Ht and Ht is Ht. This is noted on the conversion legend.

PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

```
Soil name
Map
symbol:
     :Blount silt ldam, 0 to 2 percent slopes (where drained)
BMA
BmB2 :Blount silt loam, 1 to 4 percent slopes, eroded (where
      : drained)
      Boyer sandy loam, 0 to 2 percent slopes
BWA
      Boyer sandy Loam, 2 to 6 percent slopes
BWB
      :Brookston loam (where drained)
Bz
      (Coesse silty clay loam (where drained)
Co
      iCrosier sandy loam, 0 to 3 percent slopes (where drained)
CSA
      !Fulton silty clay loam (where drained)
Fu
      :Glynwood loam, 3 to 6 percent slopes, eroded
GSB2
      :Haskins loam. 0 to 3 percent slopes (where drained)
HDA
      Homer Loam (where drained)
Ho
      !Kalamazoo sandy loam, 0 to 2 percent slopes
KaA
      ¡Kalamazoo sandy loam. 2 to 6 percent slopes
Ka3
      !Martinsville loam, 1 to 6 percent slopes
MbB
      : Mermill loam (where drained)
Ma
      !Miami sandy loam, 2 to 6 percent slopes, eroded
MmB2
      :Milford silty clay loam (where drained)
Ms
      !Morley loam, 3 to 6 percent slopes, eroded
MVB2
OSA
      loshtemo sandy loams 0 to 2 percent slopes
PW
      iPewamo silty clay Loam (where drained)
      Rawson sandy loam, 0 to 2 percent slopes
RCA
      !Rawson sandy loam + 2 to 6 percent slopes
RCE
Re
      ipensselaer loam (where drained)
RhB
      IRiddles sandy loam, 1 to 6 percent slopes
      :Saranac silty clay Loam, sandy substratum, frequently
Sa
      : flooded (where drained and either protected from
      : flooding or not frequently flooded during the growing
      : season)
      (Sebewa Loam (where drained)
Se
      ishoals silt loams sandy substratums frequently flooded
Sh
      : (where drained and either protected from flooding or not
      : frequently flooded during the growing season)
      :Sloan Loam. sandy substratum, frequently flooded (where
SD
      : drained and either protected from flooding or not
      : frequently flooded during the growing season)
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PRIME FARMLAND -- Continued

-	
Map symbo	Soil name
371100	*** The same was a second of the same was th
-	
St	iStonelick Variant sandy loam, occasionally flooded
WmB	!Wawasee sandy loam, 2 to 6 percent slopes
Wt	Whitaker Loam (where drained)

Approved: April 17, 1985

RODNEY F. HARNER

Head, Soils Staff

Midwest NTC

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Fiola	Publi-		Publi-		Publi-		Publi-
Field		Field				Field	cation
SYMBOL	symbol	SYMDOL	SYMDOL	SYMDOL	symbol	symbol	symbol
Ad	A e	На	Mg	MoC3	MoC3	: SfB	SfB
Аe		НаА	HbA	MoD3		SfC	SfC
BaA		НаВ	НЬА	MoE3	127727	Sh	Sh
BaB2		НЬА	HbA	Ms	Ms	Sm	Но
BmA	BMA	HbB	HbA	MVB2	MVB2	So	So
	1	•				8	
BmB2	BmB2	HeGHO	HeGHA	MvC2	MVC2	SpA	SpB
8n	Ms	HOA	Ho Mo	MVD2	WADS	SpB	SpB
BOA	- 140 M B	Hs	Hs	MVE2	20°55 N 3 5 6 6 6	SpC	SpC
BoB		Hs	Bt	MxC3		SpD	SpC
BoC	BVC	ਸੰt	Ht !	MxD3	MxD3	St	st
BoC2	BvC	i ! µ+	ш+	MUEZ	May 5.7	11.4	11 al
BoD	BVD	Ht KaA	Ht KaA	MxE3	MxE3	Ud	Ud
8r	8 z	КаВ	KaB	0 r	Mz Ud	Wa	Wa
Bt	Bt	KrA	BWA	OcA	KaA	<u>₩a</u> ₩c	W C
Bu	Нt	KrB	BwB	OcB2	KaB	Wh.	Co
					11 42	NS 1.3	CO
BVB	BVB	KrC	BWC	OmA	OmB	WmA	WmB
BVC	BVC	KrD	BVD	OmB	OmB	WmB	WmB
BVD	BVD	KrD2	BVD	OmC	SpC	WmC	WMC
BWA	BWA.	KsA	BWA	OsA	OSA	WmD	MmD2
BwB	BwB	Ks₿	BWB	0sB	КаВ	WpC3	WmC
BWC	BwC	KsC	BWC	Pa	Pa l	WpD3	MoD3
Bx	Βz	KsD2	BVD	Pb	Pb {	Ws	Se
ByC3	ВуС3	KtC3	Byc3	Pt	Ms	Wt	Wt
BZCo	Bz Co	KtD3	Byc3	PW	PW :	WtA	Wt
CrA	CsA	Le	Ms	Px	₽x		
CsA	CsA	Lk	Mg	RCA	RcA		
CtA	CsA	MbA	MbB	CAS SEC	RcB		
Die	Fu :	MbB	MbB	RCC	RcC		
DeA	Fu	MbB2	MbB	Re	Re	1	
FsA	BWA :	MbC	MbC	RhA	RhB		
FsB	BwB .	MbC2	MbC	RhB	RhB		
FsC	BWC	Md	Md	RhC	RhC	}	
FsC2	BWC	Mg	Mg	RHD	MmD2	}	
Ftc3	ByC3	MKA	WmB :	RXG	BVD		
Ge Fu	st Fu	MkB	WmB	Sa	\$a		
Gm	GW	MKC	WmC	SbB	Mv82		
6r	G w	MmB2	MmB2	SbB2	MvB2		
GsB2	GsB2	Mmc2	MmC2	SbC	MVC2		
GtB3	GtB3	MmD2	MmD2	SbC2	MVC2		
GW	GW	MmE2	MmE2	Se	Se :		
					\$ \$ 100 First Service which desired arrang service and	ar same and it follows the artist design result to	-

 $[\]frac{1}{2}$ See "Instructions for Map Compilation and Map Finishing."

CLASSIFICATION OF PEDONS SAMPLED FOR LABORATORY ANALYSIS

1. Data from Purdue University with SCS-SOILS-8 forms

Sampled as	Pedon Sample No.	Laboratory No.	Publication Symbol	Approved Series Name or Classification
Blount	S80IN183-001	11719	BmA	Blount - Lacks an E horizon
Boyer	S84IN183-007	14065	BvD	Boyer - Inclusion of sandy loam phase
Glynwood	S80IN183-004	11725	GsB2	$\operatorname{Glynwood}^{\underline{1}/}$
Kosciusko	S84IN183-006	14058	BwB	Boyer
Morley	S80IN183-009	11731	MvB2	Morley $\frac{1}{}$ BC horizon is 3 inches thick
Pewamo	S80IN183-014	11737	Pw	Pewamo $\frac{1}{C}$ horizon has 4 chroma
Wallkill	S80IN183-017	11751	Wa	Wallkill taxadjunct; pedon is fine textured; inclusion in mapping unit
Washtenaw	S80IN183-016	11743	Со	$Coesse \frac{1}{2}$
2. Data from	the National	Soil Survey La	aboratory with S	SCS-SOILS-8 forms
Crosier	S81IN183-001	824188	CsA	$Crosier \frac{1}{}$
Del Rey	S83IN183-007	841468	Fu	Fulton $\frac{1}{}$ less clay in lower C horizon
Haskins	S83IN183-001	833857	НЪА	$\text{Haskins}\frac{1}{}$
Kalamazoo	S83IN183-003	833871	KaA	Kalamazoo $\frac{1}{}$ deeper to loamy sand
Kosciusko	S84IN183-002	842654	BwB	Boyer
Martisco	S80IN183-000	811106	Md	Martisco taxadjunct; soils are coarse-loamy
Mermill	S84IN183-004	842667	Mg	Mermill taxadjunct; Mollic Haplaquept; inclusion in Mermill

mapping unit

Sampled as	Pedon Sample No.	Laboratory No.	Publication Symbol	Approved Series Name or Classification
Miami	S81IN183-002	824197	MmB2	$Miami\frac{1}{}$
Muskego	S80IN183-000	811111	Mz	Muskego $\frac{1}{}$ medium acid in the C horizon
Rawson	S83IN183-002	833863	RcB	Rawson-E horizon is 6 inches thick; material in lower profile has been moved
Seward	S83IN183-004	833878	SfB	Seward-less clay in 2C horizon
Sloan	S80IN183-018	841474	So	Sloan Bg includes strata of sandy loam
Spinks	S84IN183-005	842675	SpB	Spinks1/
Wawasee	S84IN183-003	842660	Wm.B	Wawasee 1/

 $[\]frac{1}{2}$ /Representative pedon for the series in Whitley County, Indiana. Typical pedon for official series description.

Notes to Accompany Classification and Correlation of the Soils of Whitley County, Indiana

by Jerry D. Larson and Roger L. Haberman

BLOUNT SERIES

The Bt horizon is slightly thinner than recognized for the series. In addition the soils lack an E horizon. An eroded pedon represents the series.

BOOTS SERIES

The Op, Oal, and Oa2 layers have granular structure. This type of structure is not recognized in the series.

BOYER SERIES

Soils named Kosciusko in the field correlation are correlated as Boyer. During the final field review the Boyer units were combined with Kosciusko with the thought that the clay content in the argillic horizon was slightly over 18 percent in both. Lab data received by phone during the final correlation conference indicated that soils formerly called Boyer had 13 percent clay and the Kosciusko soils had 14 percent clay. Boyer soils are coarse-loamy. In addition field notes indicates that soils formerly called Boyer had coarser surface textures, than those called Kosciusko, therefore they are separated as loamy sand phases of the series.

COESSE SERIES

This series is established by this correlation. There are about 3900 acres in the survey area.

FULTON SERIES

These soils contain slightly less clay in the C horizon than recognized for the series.

GLYNWOOD SERIES

In Glynwood unit GsB2 the slopes were changed to 3 to 6 percent from that of 3 to 8 percent, so as to better fit the landscape.

HASKINS SERIES

The soils typically have less clay in the 2C horizon than required for the series.

HENNEPIN SERIES

The Bw horizon is slightly thicker than recognized for the series.

HOMER SERIES

Depth to the 2Bt horizon is slightly less than recognized for the series.

KALAMAZOO SERIES

Depth to loamy sand textures is greater than recognized for the series.

MARTISCO SERIES

These soils are taxadjunct to the Martisco series as they are coarse-loamy rather than fine-silty.

MERMILL SERIES

The Bt horizon and solum are slightly thicker; there is more development in the 2B horizon, and there is typically less clay in the C horizon than recognized for the series.

MIAMI SERIES

Chroma of 4 included in the A horizon. This chroma is outside the series range.

MORLEY SERIES

The BC horizon is slightly thinner than recognized for the series.

The slopes in Morley unit MvB2 is changed to 3 to 6 percent from that of 3 to 7 percent and in unit MvC2 to 6 to 12 percent from that of 7 to 12 percent so as to better fit the landscape.

MUSKEGO SERIES

The C horizon is slightly more acid than recognized for the series.

ORMAS SERIES

The Bt horizon is slightly thinner and the 2Bt slightly thicker than recognized for the series.

PALMS SERIES

The C horizon includes chroma of 4. This chroma is outside the range of the series.

PEWAMO SERIES

The C horizon includes chroma of 4. This chroma is outside the range of the series.

RAWSON SERIES

The Bt horizon includes sandy loam in the upper part. The soils typically have less clay in the C horizon than recognized for the series.

SARANAC SERIES

The Bg horizon and solum are thicker than recognized for the series. In addition the B horizon includes 3 value and 6 chroma which are outside the series range.

SEBEWA SERIES

Btg horizon includes 3 value, gravelly sandy loam texture, and reaction of moderately alkaline. These items are outside the series range.

SEWARD SERIES

Soils called Seward Variant in the field correlation are correlated as Seward. They have slightly less clay in the 2C horizon than recognized for the series. In addition the Bt horizon includes a layer of sandy clay loam which is slightly thicker than recognized for the series.

SLOAN SERIES

The Bg horizon includes strata of sandy loam, which is not recognized in the series.

STONELICK VARIANT

These soils are coarse-loamy, mixed, nonacid, mesic Typic Udifluvents. They are borderline to being sandy textured.

WALLKILL SERIES

Soils named Wallkill Variant in the field correlation are within the range of the Wallkill series and are named as a phase of the series. The name of mapping unit Wc is changed to Wallkill silty clay loam, coprogenous earth substratum from that of Wallkill Variant silty clay loam.

CLASSIFICATION OF THE SOILS

(An asterisk in the first column indicates a taxadjunct to the series. See notes for a description of those characteristics of this taxadjunct that are outside the range of the series)

```
Soil name
                 Family or higher taxonomic class
Adrian----: Sandy or sandy-skeletal, mixed, euic, mesic
             : Terric Medisaprists
Blount----: Fine, illitic, mesic Aeric Ochraqualfs
Boots----: Euic, mesic Typic Medihemists
Boyer----: Coarse-Loamy, mixed, mesic Typic Hapludalfs
Brookston---: Fine-Loamy, mixed, mesic Typic Argiaquolls
Coesse----: Fine, mixed, nonacid, mesic Aeric Fluvaquents
Crosier ----- Fine-loamy, mixed, mesic Aeric Ochraqualfs
Fulton----: Fine, illitic, mesic Aeric Ochraqualfs
Glynwood----: Fine, illitic, mesic Aquic Hapludalfs
Granby----: Sandy, mixed, mesic Typic Haplaquolis
Haskins----: Fine-loamy, mixed, mesic Aeric Ochraqualfs
Hennepin----: Fine-loamy, mixed, mesic Typic Eutrochrepts
Homer----: Fine-loamy over sandy or sandy-skeletal, mixed,
             : mesic Aeric Ochraqualfs
Houghton----: Euic, mesic Typic Medisaprists
Kalamazoo---: Fine-loamy, mixed, mesic Typic Hapludalfs
Martinsville: Fine-loamy, mixed, mesic Typic Hapludalfs
*Martisco----: Fine-silty, carbonatic, mesic Histic Humaquepts
Mermill----: Fine-loamy, mixed, mesic Mollic Ochraqualfs
Miami----: Fine-Loamy, mixed, mesic Typic Hapludalfs
Milford ----: Fine, mixed, mesic Typic Haplaquolls
Morley----: Fine, illitic, mesic Typic Hapludalfs
Muskego----: Coprogenous, euic, mesic Limnic Medisaprists
Ormas----: Loamy . mixed. mesic Arenic Hapludalfs
Oshtemo----: Coarse-loamy, mixed, mesic Typic Hapludalfs
Palms----: Loamy, mixed, euic, mesic Terric Medisaprists
Pewamo----: Fine, mixed, mesic Typic Argiaquolls
Rawson----: Fine-loamy mixed mesic Typic Hapludalfs
Rensselaer---: Fine-Loamy, mixed, mesic Typic Argiaquolls
Riddles----: Fine-loamy, mixed, mesic Typic Hapludalfs
Saranac----: Fine. mixed. mesic Fluvaquentic Hapladuolls
Sebewa----: Fine-Loamy over sandy or sandy-skeletal, mixed,
             : mesic Typic Argiaquolls
Seward ----: Loany, mixed, mesic Arenic Haptudalfs
Shoals ----: Fine-Loamy, mixed, monacid, mesic Aeric
             Fluvaquents
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CLASSIFICATION OF THE SOILS -- Continued

Soil name	Family or higher taxonomic class
Spinks Stonelick Variant. Udorthents Wallkill	Fine-loamy, mixed, mesic Fluvaquentic Haplaquolls Sandy, mixed, mesic Psammentic Hapludalfs Coarse-loamy, mixed, nonacid, mesic Typic Udifluvents Loamy, mixed, nonacid, mesic Udorthents Fine-loamy, mixed, nonacid, mesic Thapto-Histic Fluvaquents Fine-loamy, mixed, mesic Typic Hapludalfs
	Fine-loamy, mixed, mesic Aeric Ochraqualfs